

XX112-04-02

Kollector Elite^{XG}

Hybrid Network Digital Video Recorder



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Installation & Operation Manual





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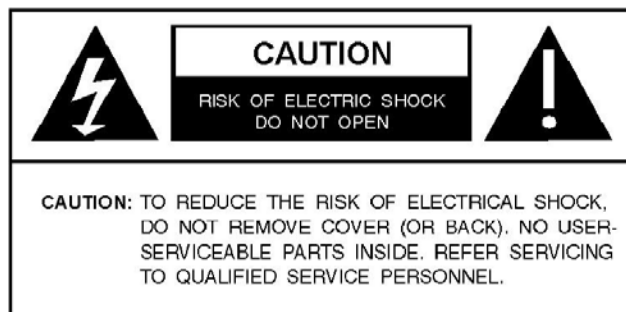
Sincerely,

Kenneth M. Darby
President

Important Safeguards

GRAPHIC SYMBOL EXPLANATION

The lightening bolt symbol alerts the user to the presence of dangerous voltage that may present the risk of electric shock.



The exclamation point symbol alerts the user to the presence of important operating and maintenance instructions.

- 1. Read Instructions** - Read all safety and operating instructions before the product is operated.
- 2. Retain Instructions** - Retain all safety and operating instructions for future reference.
- 3. Heed Warnings** - Pay attention to all product warnings.
- 4. Follow Instructions** - Follow all operating instructions.
- 5. Cleaning -(Do not use caustic, abrasive or aerosol cleaners)**
 - a) For units that CAN BE DISCONNECTED from the power source, use a damp cloth for cleaning.
 - b) For units that CANNOT BE DISCONNECTED from the power source, use a damp cloth for cleaning and do not allow moisture or liquids to enter vents.
- 6. Attachments** - Use only Vicon recommended attachments to prevent unit damage and personal injury.
- 7. Water and Moisture** - Use only products designed for outdoor environments where they will be exposed to water or moisture.
- 8. Accessories** - Do not place the unit on an unstable surface to avoid falling. Use only Vicon recommended mounting accessories.
- 9. Ventilation** - Do not block ventilating slots and openings as they ensure reliable operation. Do not place the unit near a heat source or into an enclosure unless recommended by Vicon.
- 10. Power Sources** - The product should only be operated from the recommended power source. If not specified, consult your Vicon dealer or local power company.
- 11. Grounding** - Only products equipped with a 3-prong grounded plug should be inserted into a grounded power outlet. Contact an electrician to replace an obsolete outlet. Do not force a plug into a non-grounded outlet.

12. Power Cord Protection - Power supply cords should not be routed in trafficked areas or in tight spaces where they will be pinched or used to bear weight. Allow some slack in the cord where it enters the unit.

13. Outdoor Cable Grounding - Use only grounded outdoor cables to protect against voltage surges and static charges. Section 810 of the National Electrical Code, ANSI/NFPA 70-1984, provides information on proper grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors and the requirements of grounding electrodes.

14. Lightning - Disconnect the product from its power source and cable system when possible to prevent damage due to lightning and power-line surges.

15. Power Lines - Do not locate outside cables over power or utility lines where they can fall and make direct contact. Contact with power lines can be fatal.

16. Overloading - Do not overload wall outlets and extension cords to prevent risk of fire and electric shock.

17. Object and Liquid Entry - Never probe through, or spill liquid into, enclosure openings to prevent risk of fire or electric shock.

18. Servicing - Refer all servicing to qualified service personnel.

19. Damage Requiring Service - Obtain service when:

- a) The power-supply cord or plug is damaged.
- b) Objects have fallen or liquid has been spilled into the product.
- c) The product is not designed for outdoor use and has been exposed to water or moisture.
- d) The product does not operate per the operating instructions. Perform Vicon recommended adjustments, modifications and troubleshooting only to avoid unit damage and personal injury.
- e) The product has been dropped.
- f) The product shows a significant change in performance.

20. Replacement Parts - Use only Vicon specified replacement parts or an approved equivalent to prevent unit damage and injury.

21. Safety Check - Request safety checks to be performed following repair or maintenance to verify proper operation.

22. ESD Precaution - Take all normal electrostatic discharge precautions to avoid component damage during installation and operation.

23. For 230 VAC Devices- When the disconnect device is not incorporated in the equipment or when the plug on the power supply is intended to serve as the disconnect device, follow the guidelines below:

- a) For permanently connected 230 VAC units, a readily accessible disconnect device must be incorporated into the site wiring.
- b) For 230 VAC units with a plug, the outlet must be installed near the unit and be easily accessible.

FCC Notice

Note: *Complies with Federal Communications Commission Rules & Regulations Part 15, Subpart B for a Class A digital device.*

WARNING

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instruction, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class A computing device in accordance with the specification in subpart B of part 15 of the FCC rules, which are designed to provide reasonable protection against such interference in a commercial installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television reception, which can be determined by turning equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient the receiving antenna.
- Relocate the equipment with respect to the receiver.
- Relocate the equipment away from the receiver.
- Plug the equipment into a different electrical outlet so that the equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions.

The user may find the following booklet prepared by the Federal Communications Commission helpful:

"Interference Handbook, Bulletin CIB-2"

This booklet is available from the U.S. Government Printing Office, Superintendent of Documents, Mailstop SSOP, Washington, D.C. 20402-9328, ISBN 0-16-045542-1.

 **Warning:** *Power must be removed from this unit before removing circuit modules or ribbon cables.*

 **Caution:** *This unit contains circuit cards with integrated circuit devices that can be damaged by static discharge. Take all necessary precautions to prevent static discharge.*

Important Notice

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About This Manual

This Kollektor Elite Installation and Operation Manual is comprised of the following chapters:

- **Chapter 1, Introduction**, introduces the Kollektor Elite Video Network Digital Video Recorder.
- **Chapter 2, Quick Installation**, is for experienced installers, and provides an illustration of how the Kollektor Elite should be connected to its various peripherals.
- **Chapter 3, Installation**, is for novice or first-time installers, and provides step-by-step instruction on how to install the Kollektor Elite.
- **Chapter 4, Operation**, describes how to power on, boot and power off the Kollektor Elite.
- **Chapter 5, Troubleshooting**, provides information on what to do in the unlikely event of a Kollektor Elite malfunction.
- **Chapter 6, Maintenance**, provides information on maintaining the Kollektor Elite.
- **Chapter 7, Shipping Instructions**, describes the procedure to be followed when sending a Kollektor Elite back to Vicon.
- **Chapter 8, Coaxial Cable Recommendations**, provides technical information for the recommended coaxial cable types.
- **Chapter 9, Twisted-Pair Cable Recommendations**, provides technical information for the recommended twisted-pair cable types.
- **Chapter 10, Technical Information**, provides the electrical, mechanical and environmental specifications for the Kollektor Elite.

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Chapter 1

Introduction

The information in this manual covers the installation and operation of the Kollektor Elite Digital Video Recorder. This system should only be installed by a qualified technician using common hand tools and approved materials in accordance with national, state and local wiring codes.

The Kollektor Elite is an intelligent and rugged Digital Video Recorder. It is a state-of-the-art, Windows-based computer in an attractive industrial steel case. The Kollektor Elite is sold in prepackaged configurations with choices of video (frame per second) rates and hard drive sizes, and uses an Intel Pentium CPU platform. All versions run the same Vicon ViconNet software application. For software information, refer to the Kollektor Elite Software manual, XX112-3X (where X is a revision number between 0 and 9). Kollektor Elite can be networked with all models of Kollektor Pro, Kollektor Lite and ViconNet Workstations to create a complete system.

Kollektor Elite complies with UL standard 2044, CSA safety standard C22.2, No. 1 and meets requirements for an FCC Class A computing device.

Vicon requires the use of line conditioners, voltage regulators and uninterruptible power supply (UPS) systems in the electrical power service.

NOTE: <i>Read all instructions before beginning the installation.</i>
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How to Use This Manual

This manual was designed to provide the best overall instructions for the installation and operation of the Kollektor Elite Digital Video Recorder. The graphics and terminology used in this manual have been carefully selected to enable a clear and distinct understanding of the Kollektor Elite and its configuration. This manual has been formatted to present distinct methods of installation for experienced (strong computer background) and novice installers.

For Experienced Installers

Refer to *Chapter 2, Quick Installation*, on page 4. Figure 2-1 presents the most common installation for all ports and connectors of the Kollektor Elite. For more detailed descriptions, refer to *Chapter 3, Installation* and *Chapter 4, Operation*.

For Novice Installers

Complete the remainder of this chapter and then proceed to *Chapter 3, Installation*. When complete, proceed to *Chapter 4, Operation* to power-on and boot the system. For software information, refer to the Kollektor Elite Software Manual, XX112-3X (where X is a revision number between 0 and 9).

Accessory Kit

The provided accessory kit contains necessary items needed to install and wire the recorder during installation as follows:

Table 1-1: Accessory Kit

Part	Description	Quantity
Front Door Key	Opens the front panel door.	2
Installation and Operation Manual	Provides instructions on installation, configuration and operation.	1
Software Manual		1
Video Adapter Cable (certain models)	Used to adapt the video card ports for various monitors.	1
Optical Mouse	Used for GUI operation of the ViconNet software.	1
Looping Cable	Provides additional video looping outputs from each camera for use with other video components.	2
Power Cord	Used for power connection of Kollektor Elite	1
RJ45 Cable	Cable used for ViconNet network connection.	1
Handles (including hardware)	Used for ease of installation into a 19-inch standard rack.	2 (incl. 4 screws)

Unpacking and Inspection

All Vicon equipment is tested and inspected before leaving the factory. It is the carrier's responsibility to provide suitable delivery.

Inspect the cartons upon delivery and, if damage is present, make detailed notes on the carrier's bill. Then, obtain the carrier agent's signature and file a damage claim as soon as possible.

Open the cartons and inspect the equipment for damage. Save the cartons and packing material. If damage is present, contact the carrier and file a damage claim immediately. If the equipment must be returned for repair, follow the instructions in *Chapter 7, Shipping Instructions*.

Chapter 2

Quick Installation

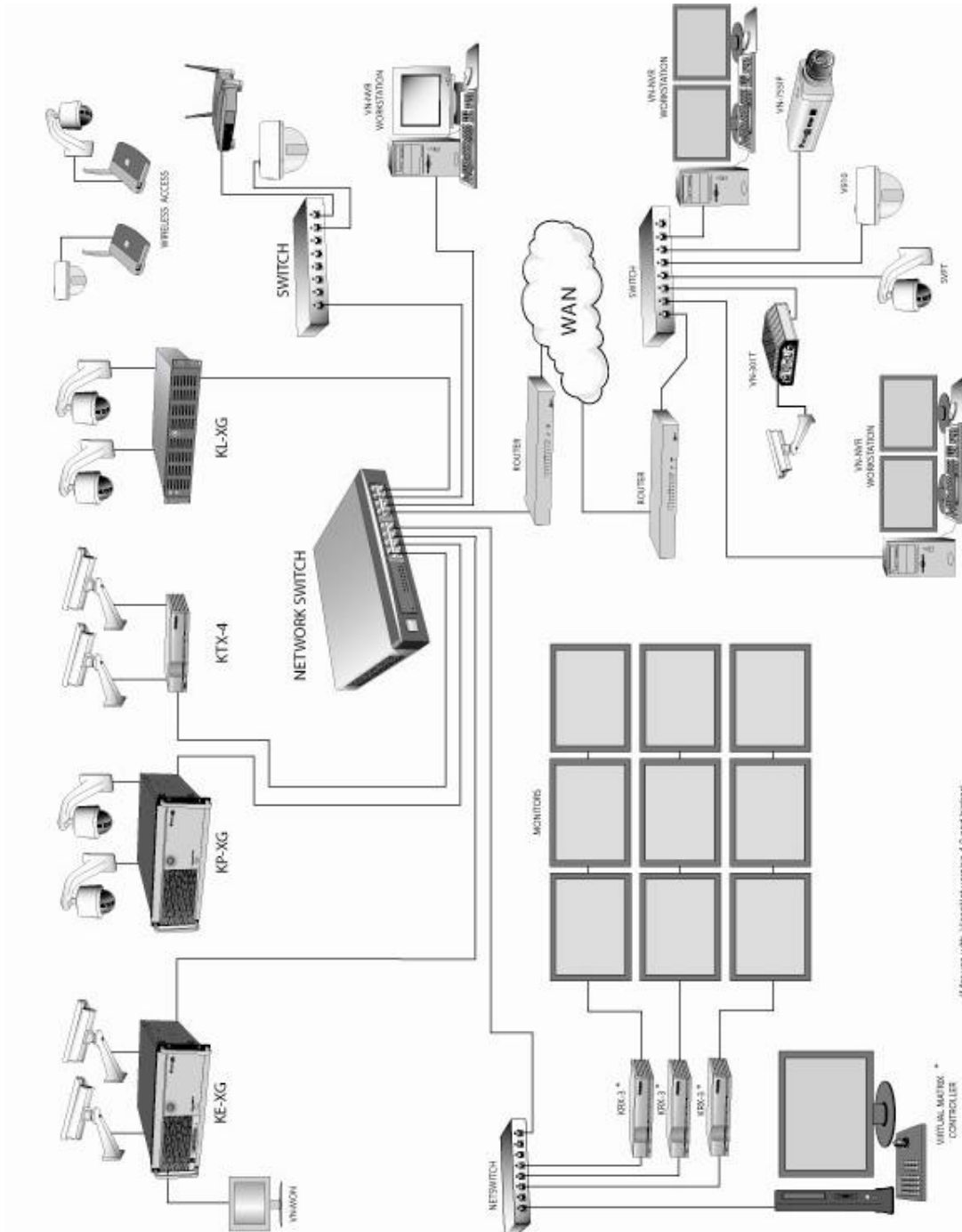


Figure 2-1: Kollektor Elite Quick Installation

Chapter 3

Installation

For novice or first-time installers, these steps provide the most thorough and accurate instructions.

About This Chapter

This chapter details the complete installation of the Kollektor Elite Digital Video Recorder. The following sections provide information as follows:

- ***Unpacking the Recorder*** defines how to remove the unit and accessories from the box.
- ***Required Items for Installation*** defines items needed for installation.
- ***Unit Components*** defines all connections on the front and rear panels and their use.
- ***Mounting*** defines all methods of securing the recorder for permanent use.
- ***Installing the Kollektor Elite*** describes how to install all necessary peripheral devices directly to the recorder.

Unpacking the Recorder

Carefully open the carton. Remove the Accessory Kit and the recorder from the box and place them on a large, flat working surface. Open the Accessory Kit and verify the contents against the list in Table 1-1, page 2.

Required Items for Installation

To properly install the recorder there must be simple hand tools available such as a screwdriver, wrenches, pliers and wire cutters/strippers. To setup the recorder for operation there must be a keyboard and a mouse available to operate the GUI.

Unit Components

This section describes the Kollector Elite unit's front and rear panels.

Front Panel Controls and Connections

The following picture shows the Kollector Elite front panel. Each panel component is described in the table below.

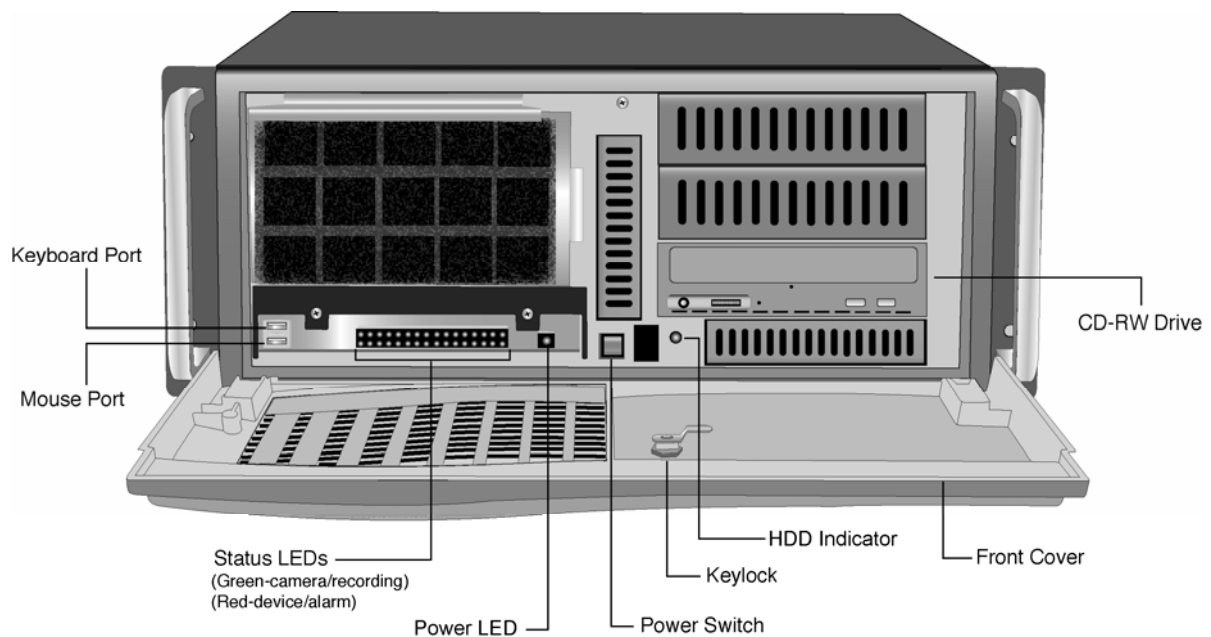


Figure 3-1: Front Panel Layout

The Kollector Elite's front panel contains the following components:

- **Keyboard Port:** A USB-type connector used to connect a standard PC keyboard (not included).
- **Mouse Port:** A USB-type connector used to connect an optical mouse.
- **Status LEDs:** Used to indicate what the Kollector Elite is doing, for example, scanning for attached cameras or recording.
- **Keylock:** Used with the provided key to lock the front door.
- **Power Switch:** Used to power on the recorder (for more details, refer to *Powering On the Recorder*, page 17).
- **HDD LED Indicator:** Used to display HDD activity status.
- **Power LED indicator:** Used to display the power status (ON means recorder on and OFF means recorder off).
- **Front Cover:** Used to protect the Kollector Elite's front panel from unauthorized use.
- **CD-RW Drive:** Used as a high-capacity removable data drive.

Rear Panel Controls and Connections

The following picture shows the Kollektor Elite rear panel. Each panel component is described below.

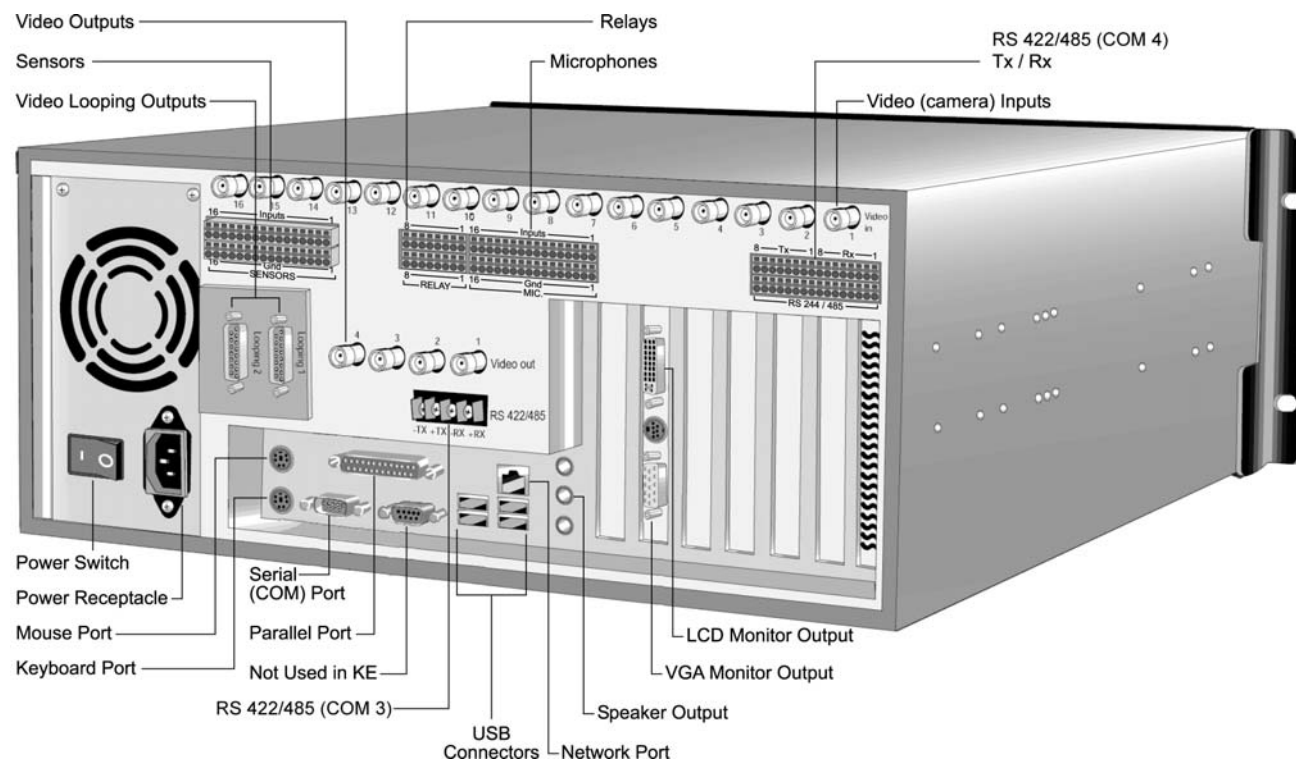


Figure 3-2: Rear Panel Layout

The Kollektor Elite's rear panel contains the following components:

- **Video Looping Outputs:** DB-15 connectors used with provided cables to loop the video inputs out.
- **Video (Camera) Inputs:** Standard BNC-F connectors used for analog camera video input.
- **Power Switch:** Used to power on and off the power supply of the recorder.
- **Power Receptacle:** Used to connect the provided Power Cable.
- **Keyboard Port:** A mini-DIN type connector used to connect a standard PC keyboard (not included).
- **Mouse Port:** A mini-DIN type connector used to connect the provided optical mouse.
- **Network Port:** A standard RJ-45 connector used to connect to a LAN/WAN.
- **USB Connectors:** Used for optional devices.
- **Parallel Port:** Used for general printing.
- **Serial (COM) Port:** Used to connect system serial devices.

- **Speaker Output:** Mini phono-type connector used for sound card audio output.
- **LCD Monitor Output:** Used for digital video output to a monitor. A DVI-to-VGA adapter is provided for use with VGA monitors.
- **Auxiliary Fan:** Used to cool the unit during operation (available on 240/480 FPS models only).
- **Relays:** 8 x 60 V, 1.0 A. Used to control optional equipment connected to the Kollektor Elite.
- **Sensors:** Used to connect sensors to the Kollektor Elite. For more details, refer to the section *Sensor Input*, on page 12)
- **Microphones:** Used to connect microphones to the Kollektor Elite.
- **Tx/Rx:** Used to connect COM controlled devices (such as: PTZ, external relay box or joystick control, and so on) to the Kollektor Elite (COM 4). *Note: Rx not currently available.*
- **RS422/485:** COM 3 used as an optional port to control PTZ via a V1400X-IDL.
- **Video Matrix Out:** Used to connect analog display monitors to the Kollektor Elite. For more information on the switching Matrix, refer to *Chapter 3, Configuring the ViconNet System* in the Kollektor Elite Software Manual.

NOTE: Connector locations may vary according to KE type.

Mounting

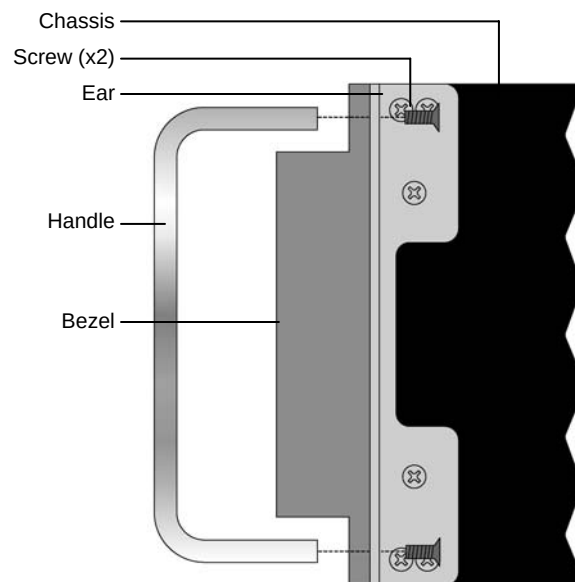
There are two types of mounting recommended for the recorder, either desktop or rack. For more details, refer to the Kollektor Pre-installation Manual, XX112-7X.

Desktop

The desk or table must provide a surface of suitable strength for the Kollektor Elite's weight of 45 lb (20.5 kg). In addition, there must be area left around the cabinet to provide suitable airflow for cooling. Do not place heavy items on the cover.

Rack

The recorder was designed to be mounted in a standard 19-inch (483mm) wide vertical rack. Use the provided rack mount ears to connect the recorder to the rack using hardware provided with the rack. Handles (including four screws) are included in the accessory kit for ease of installation.



It is recommended that at least $\frac{1}{4}$ standard rack height of space be left in between multiple recorders mounted in the same rack for cooling purposes.

⚠ WARNING: *Failure to leave space for cooling between recorders may result in malfunctioning and possible failure of the recorder.*

Installing the Kollektor Elite

After the recorder is mounted permanently, follow the steps in this section to install the Kollektor Elite unit hardware.

- **Step 1: Connecting the Hardware**, below
- **Step 2: Connecting External Hardware to the Kollektor Elite**, page 11
- **Step 3: Connecting Looping Cables**, page 15
- **Step 4: Connecting the Power Supply**, page 16

IMPORTANT NOTES:

The connection of external hardware may require simple hand tools. Do not apply power or plug-in the recorder to any outlet until instructed to do so.

Disable the AC power to prevent installer injury and damage to the unit.

Before beginning the hardware installation, ensure that the following environmental conditions have been met:

- *The surface on which the **ViconNet** hardware is to be placed must be level.*
- *The room or area designated for the **ViconNet** hardware installation must be well ventilated.*

Step 1: Connecting the Hardware

This procedure describes the various hardware connections that must be performed in order to operate the system.

To connect the ViconNet hardware:

1. Perform the following connections: (refer to Figure 3-1 on page 6 and Figure 3-2 on page 7).
 - 1.1 Locate the keyboard on a flat surface near the recorder. Connect the keyboard by inserting its connector into the correct port.
 - 1.2 Locate the mouse on a flat surface near the recorder. Connect the mouse by inserting its connector into the correct port.
 - 1.3 Position the monitor in a permanent fixed location near the recorder. Connect the monitor by inserting its VGA connector into the VGA Monitor Output port.
 - 1.4 Insert one side of a standard LAN cable to the Network Port's RJ-45 connector. Insert the other RJ-45 connector into the LAN side of the network.
 - 1.5 Gather and locate all camera video input cables near the rear of the recorder. Insert each BNC-M into its respective Video (Camera) Input port (1 – 16).
 - 1.6 Connect external hardware devices to the Kollektor Elite's relevant terminal connectors.
 - 1.7 Insert the female end of the provided 120 VAC Power Cable into the recorder's Power Receptacle. Do not connect the remaining end to a power receptacle until instructed. If using 230 VAC power, it is necessary to obtain a suitable power cord for use. This cable is a standard computer 230 VAC power cord.
2. Connect the monitor to the power source and power on.

Step 2: Connecting External Hardware to the Kollektor Elite

The connection of external hardware to the Kollektor Elite requires simple hand tools. Do not apply power or plug-in the recorder to any outlet until instructed to do so.

⚠ WARNING: Disable the AC power to prevent installer injury and damage to the unit.

Connect external devices as follows:

Communications (COM controlled devices)

COM controlled devices may include devices such as PTZ, joystick and relay boxes. Connect PTZ cameras to COM 4 ports (Figure 3-3); COM 3 is an optional port used to connect PTZ cameras using a V1400X-IDL (Figure 3-4). Refer to AA112-01-01 for a PTZ Connection Guide and AA112-07-00 for PTZ Joystick/Keypad Connection Guide.

To connect a COM controlled device to the Kollektor Elite:

1. Using a twisted-pair cable as defined in *Chapter 9, Twisted-Pair Cable Recommendations*, prepare a 4-conductor plus shield type cable by stripping the ends back for use.
2. Connect the COM controlled device to the green terminal block connector (while it is disconnected from the Kollektor Elite).
3. Connect the terminal block connector to the RS422/RS485 TX/RX connectors on the rear panel.

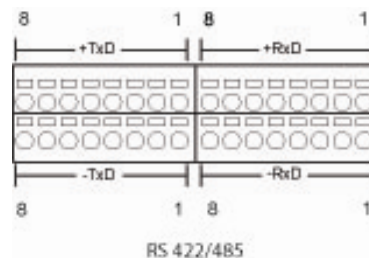


Figure 3-3: Connecting the Terminal Block Connectors

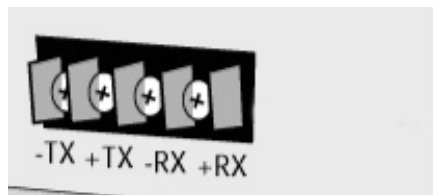


Figure 3-4: COM 3 Port

NOTE: Ensure that the wires are connected in the correct positions and to the correct polarity (either TX+ and TX- or RX+ and RX-), depending on the type of the device.

4. Install the other end of this cable into the COM controlled device to communicate with the Kollektor Elite.

NOTE: To release a cable from a terminal block connector, push in the relevant orange DIP switch using a flat-headed screwdriver and pull out the cable.

Sensor Input

The procedure for connecting a sensor to the Kollektor Elite is described below.

To connect a sensor to the Kollektor Elite:

1. Using a twisted pair cable as defined in *Chapter 9, Twisted-Pair Cable Recommendations*, prepare a 2-conductor type cable by stripping the ends back for use.
2. Connect the sensor wires to the required channel of the terminal block connector (while it is disconnected from the Kollektor Elite).

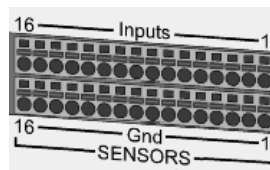


Figure 3-5: Sensor Input

3. Connect the terminal block connector to the sensor connectors on the rear panel.
4. Install the other end of this cable into the appropriate sensor output (NO or NC dry contact).
5. When using a detector, a resistor should be connected as follows:
 - **Normally Open Detector:** The resistor should be connected to the sensor (SENS) and the ground (GND) connectors.
 - **Normally Closed Detector:** The resistor should be soldered between one of the connectors and one of the detector's wires.

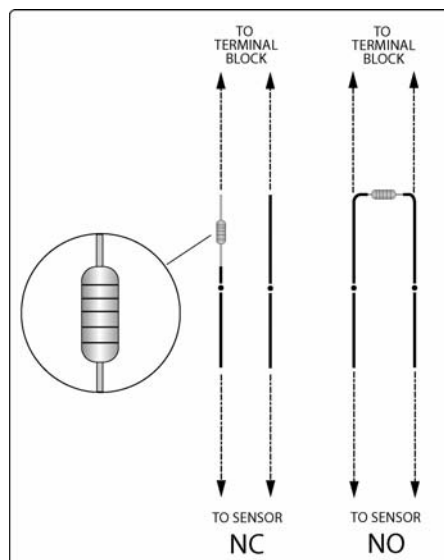


Figure 3-6: Inline Resistor

NOTE: 16 1K Ω resistors are included.

Relay Outputs

The procedure for connecting a relay to the Kollektor Elite is described below.

To connect a device to the relay output on the Kollektor Elite:

1. Using a twisted pair cable as defined in Chapter 9, *Twisted-Pair Cable Recommendations*, prepare a 2-conductor type cable by stripping the ends back for use.
2. Connect the device relay input wires to the required channel of the terminal block connector (while it is disconnected from the Kollektor Elite). Use a small tipped screwdriver to push open each wire connection.

NOTE: The terminal block Kollektor for relays has only eight channels.

3. Connect the terminal block connector to the relay connector on the rear panel.
4. Install the other end of this cable into the appropriate device relay input (NO or NC dry contact).

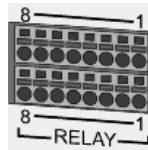


Figure 3-7: Relay Output

Microphone Inputs

The procedure for connecting a microphone to the Kollektor Elite is described below.

To connect a microphone to the Kollektor Elite:

1. Using a compatible microphone as defined in *Chapter 10, Technical Information*; identify the corresponding 2-conductor type cable.
2. Connect the cable wires (signal and ground) to the required channel of the terminal block connector (while it is disconnected from the Kollektor Elite). Use a small tipped screwdriver to push open each wire connection.
3. Connect the terminal block connector to the microphone on the rear panel.
4. If necessary, meaning depending on which microphone, connect the other end of this cable to the appropriate terminals of the microphone.

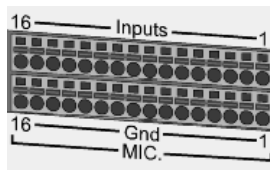


Figure 3-8: Microphone Input

Step 3: Connecting Looping Cables

Looping cables are required only when you wish to retrieve video (output) from the Kollektor Elite. The purpose of the cables is to transmit video signals to a second transmitter. Each cable transmits 8 video signals - Looping 1 transmits signals from cameras 1 to 8 and Looping 2 from cameras 9 to 16.

To connect the cables:

1. Using the two provided Video Looping Cable Assemblies, insert the large D-type connector end into one of the two Video Looping Output ports.
2. Connect each of the remaining BNC-F connectors to the Video (Camera) Input ports, as defined in the following table. In order to connect the video, male-to-male BNC cables are required (not included).

Wire Label	Looping 1 Cameras	Looping 2 Cameras
Video 1/9	1	9
Video 2/10	2	10
Video 3/11	3	11
Video 4/12	4	12
Video 5/13	5	13
Video 6/14	6	14
Video 7/15	7	15
Video 8/16	8	16

NOTE: Each BNC cable is labeled for the relevant channel. For example V6680 VIDEO 2/10 (green wire) transmits video from camera 2, if the D type is connected to Looping No. 1, or camera 10 if connected to Looping No. 2. Each channel (wire) is designated a unique color.

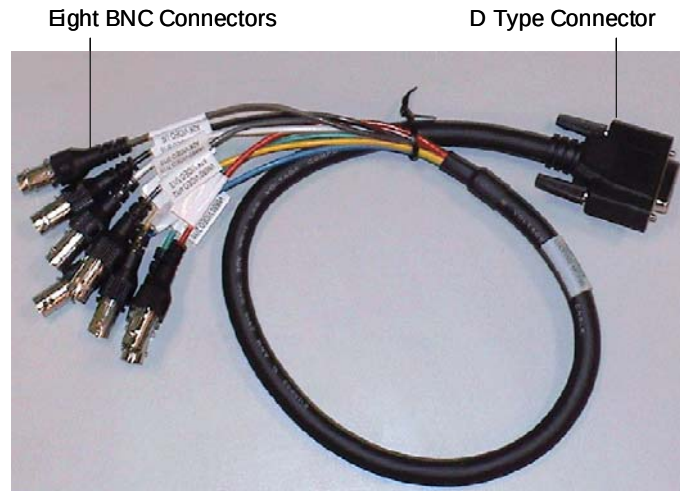


Figure 3-5: Looping Cable

Step 4: Connecting the Power Supply

To ensure that the Kollektor Elite is protected during a power failure and that no important data is lost, it must be connected to an uninterruptible power source (UPS) before use.

To connect the UPS:

1. Connect the Kollektor Elite's power cord to the UPS power receptacle.
2. Connect the UPS power cord to the wall outlet.
3. Power on the UPS and ensure that it is working properly.

NOTE: Refer to your UPS device's User Manual for a more detailed explanation of how to connect it properly.

Chapter 4

Operation

About This Chapter

This chapter details power on, booting and power off of the Kollektor Elite Digital Video Recorder. For full programming and operation information, refer to the Kollektor Elite Software manual, XX112-3X (where X is a revision number between 0 and 9). The following sections provide information as follows:

- **Powering-on the Recorder** guides the user through proper power on and boot procedures.
- **Powering-off the Recorder** guides the user through proper shut down procedures.

Powering On the Recorder

To power on the system:

1. With the recorder set up as shown in *Chapter 3, Installation*, verify that the rear panel toggle switch is in the ON position ("I" pressed in).
2. Open the front panel cabinet and press the front panel toggle Power Switch towards the "I" position. The button switches back to the "O", which is its default position, even when the system is running.

IMPORTANT: Do not press any keyboard buttons at this time.

When the recorder completes booting and the Main Screen is displayed. For more details, refer to the Kollektor Elite Software Manual, XX112-3X.

Powering Off the Recorder

To power off the system:

- With the recorder booted and operational, press the **Shutdown** button in the *Site Setup* window. Follow the screen prompts and the system returns to the ViconNet desktop. Use the **Start** button to completely shutdown the system.

OR (this is not recommended, due to the possibility of data loss)

Momentarily press the power switch. The system switches off, component by component.

Chapter 5

Troubleshooting

If the Kollektor Elite does not power-up correctly, check the following:

- Verify that the outlet or UPS supplying power is actually active. Plug in a lamp or other device to the outlet to verify the 120 or 230 VAC. If voltage is present, proceed to the next item.
- Verify that the rear panel Power Switch is in the ON position (“I” pressed in). If the recorder fails to boot, proceed to the next item.
- Press the front panel Power Switch so it is in the ON position (“I” pressed in). If the recorder fails to boot, call Vicon Technical Support.
- If the recorder boots, but does not display the Main Screen, reboot the unit by toggling the front panel power switch OFF and ON. If the recorder still fails to boot, call Vicon Technical Support.

Chapter 6

Maintenance

Periodic checking and maintenance of certain parts of your Kollektor Elite will minimize future system problems. The following table lists the items that need to be checked and when.

Maintenance Required	Monthly	Annually
Replacing the filter		✓
Cleaning the filter	✓	
Backing up	✓	
Checking the front and rear fans	✓	

To replace the filter:

1. Turn the Kollektor Elite off, and then open the front door.
2. Open the filter housing on the left-hand side.
3. Carefully remove the old filter, and then replace it with a new 105mm x 175mm filter.
4. Close the filter housing.
5. Turn the Kollektor Elite back on, and then close the front door.

To clean the filter:

1. Turn the Kollektor Elite off, and then open the front door.
2. Open the filter housing on the left-hand side.
3. Carefully remove the old filter, and then wash it under running water with a mild soap.
4. When the filter is completely dry, return it to its place in the Kollektor Elite.
5. Close the filter housing.
6. Turn the Kollektor Elite back on, and then close the front door.

To back up the Kollektor Elite:

- Refer to *Chapter 3, Configuring the ViconNet System* in the *Kollektor Elite Software Manual (XX112-3X)*

NOTE: The backup procedure should be performed whenever a change is made to the system settings.

To check the front and rear fans:

1. Turn the Kollektor Elite off, and then open the front door.
2. Open the filter housing on the left-hand side.
3. Carefully remove the filter, look at the front fan and ensure it is operating properly.
4. Look at the fan in the rear of the Kollektor Elite and ensure it is operational.
5. When you have finished, replace the filter, turn the Kollektor Elite back on, and then close the front door.

 **CAUTION:** *Do not open the recorder's top cover for any reason. Failure to follow this instruction can result in serious injury to the user and void the manufacturer's warranty.*

Chapter 7

Shipping Instructions

Use the following procedure when returning a unit to the factory:

1. Call or write Vicon for a Return Authorization (R.A.) at one of the locations listed below. Record the name of the Vicon employee who issued the R.A.

Vicon Industries Inc.

89 Arkay Drive

Hauppauge, NY 11788

Phone: 631-952-CCTV (2288); Toll-Free: 1-800-645-9116; Fax: 631-951-CCTV (2288)

For service or returns from countries in Europe, contact:

Vicon Europe Ltd.

Brunel Way

Fareham, PO15 5TX

United Kingdom

Phone: +44 (0) 1489/566300; Fax: +44 (0) 1489/566322

2. Attach a sheet of paper to the unit with the following information:
 - Name and address of the company returning the unit
 - Name of the Vicon employee who issued the R.A.
 - R. A. number
 - Brief description of the installation
 - Complete description of the problem and circumstances under which it occurs
 - Unit's original date of purchase, if still under warranty
3. Pack the unit carefully. Use the original shipping carton or its equivalent for maximum protection.
4. Mark the R.A. number on the outside of the carton on the shipping label.

Chapter 8

Coaxial Cable Recommendations

CAUTION: Careful selection of proper cable is essential to obtain the best performance from this equipment. Vicon assumes no responsibility for poor performance when cables other than those recommended, or equivalent, are installed. In all cases, coaxial cable impedance should be 75 ohms.

Materials

Use only a pure copper center conductor. Do not use a copper-plated steel or aluminum center conductor, as they will result in poor quality video. Solid-core bare copper conductor is the best type, where flexing and bending will be minimal. If severe bending and flexing is required for installation, use a stranded center conductor. Never exceed the manufacturer's minimum bend radius specification. Use cellular (foam) polyethylene dielectric except where heavy moisture exists. For moisture conditions, use solid polyethylene dielectric cable with a heavy exterior insulation. The shield must be copper braid providing 95% or better coverage.

Cable Types

The cable types listed below are the most common 75-ohm types used. They vary in size (diameter), dielectric type and net DC resistance. The larger cable results in a lower DC resistance and better video quality, with increased difficulty in handling and installation. Let the required picture quality and cable distance provide a guide in choosing the best cable type. For cables other than the approved Vicon types below, contact the manufacturers listed below. Note that "BC" refers to bare copper and "TC" refers to tinned copper.

Table 8-1: Recommended Coaxial Cable Types

Cable Type	Belden Type No.	Alpha Type No.	West Penn Type No.	Type Center Conductor	Type Shield and % Coverage	DC Resistance ohms/1000 ft (km)
RG-11/U	8213	9847	811,4811	14 Solid BC	BC braid (95%)	2.6 (8.5)
RG-6/U	9248	9804C	806,4806	18 Solid BC	Foil + 61% TC braid (100%)	7.5 (24.6)
RG-59/U	8281*	----	815	20 Solid BC	2 TC braids (96%)	9.9 (32.5)
RG-59/U	9259	9803	816	22 Stranded BC	BC braid (95%)	15.0 (49)
RG-59/U	9659	----	----	22 Stranded BC	BC braid (95%)	15.0 (49)

*Requires special BNC-M connector due to 0.305 nominal O.D.

Belden Inc.	http://www.belden.com/	(800) 235-3361
Alpha Wire Company	http://www.alphawire.com/	(800)-52 ALPHA (522-5742)
West Penn Wire	http://www.westpenn-cdt.com/	(800)-245-4964

Table 8-2: Picture Quality vs. Cable Length

Picture Quality	Maximum Cable Run** ft (m)		
	RG-59/U	RG-6/U	RG-11/U
Usable picture	1100 (350)	1500 (450)	2400 (750)
Clean picture	820 (250)	1000 (300)	1600 (500)
Best picture	400 (120)	530 (160)	820 (250)

** For longer cable runs, use a Vicon Video Amplifier to obtain a suitable picture.

Chapter 9

Twisted-Pair Cable Recommendations

⚠ CAUTION: Careful selection of the proper cable is essential to obtain the best performance from this equipment. Vicon assumes no responsibility for poor performance when cables other than those recommended are installed.

Materials

Use a pure copper stranded conductor with or without a tin plating to obtain a low DC resistance. Do not use cable with either a steel or an aluminum stranded conductor because these do not transfer signals effectively for long distances. The preferred insulation and cable jacket is Polyvinyl chloride (PVC). It has better electrical characteristics than polyethylene and resists flames, sunlight and most solvents, but is more vulnerable to moisture.

Cable Types

The most commonly used cable types are dual individually shielded, twisted pair in a single jacket. This configuration is the most convenient for RS-422/ RS485 applications. Single twisted pair is also a suitable cable.

Choose a Belden cable type by referring to the characteristics and maximum distances listed below. The maximum distance for the most reliable digital control refers to the distance between the CPU/Keypad and the Camera Dome Assembly. The characteristics of the cables in Table 6 should be used as a guideline when cables other than Belden are used. Materials and construction must follow the guidelines above.

Table 9-1: Recommended Individually Shielded, Twisted-Pair Cable Types

Cable Type	Wire Size (AWG)	Insulation Material	Jacket Material	Max. Distance ft. (m)	Number of Twisted Pairs
Belden 9406	22	PVC	PVC	5000 (1500)	2
Belden 9402	20	PVC	PVC	5000 (1500)	2
Belden 8723	22	Polypropylene	PVC	8000 (2400)	2
Belden 8162	24	Datalene ¹	PVC	15000 (4600)	2
Belden 9729	24	Datalene ¹	PVC	15000 (4600)	2
Belden 9182	22	Datalene ¹	PVC	25000 (7600)	1

¹ Datalene is a Registered Trademark of Belden.

Chapter 10

Technical Information

Table 10-1: Technical Information

Electrical Characteristics	
Input Voltage	120 - 230 VAC $\pm 10\%$, 50/60 Hz nominal. NOTE: Vicon requires the use of uninterruptible power supply systems (UPS) to prevent voltage fluctuations that can affect operation and cause damage to the equipment. Failure to comply with this violates the unit warranty.
Current	3 A
Power Consumption	450 W nominal
UPS Requirements	- Capacity: 1000 VA/600 W - Maximum operation time: 16 cameras recording/displaying with a 15" Sony CRT monitor): 18 minutes 16 cameras recording/displaying with a 17" Mag CRT monitor): 5 minutes - Input: - Voltage: 100 - 230 VAC - Voltage Range: $\pm 10\%$ - Frequency: 47 – 63 Hz (auto detection)
Heat Equivalent	25.6 btu/min (6.4 kg-cal/min) NOTE: These figures represent the conversion of 100% of the electrical energy to heat. Actual percentage of the heat generated will be less and will vary from product to product. These figures are provided as an aid in determining the extent of cooling required for an installation.
System	CPU: Intel® Pentium IV 3.0 GHz, minimum RAM: 512 MB (1 GB on 480 fps models) HDD: 250 - 3000 GB Onboard LAN: 100/1000 Mbps TPO
Connector Types/Quantities	Analog Video Inputs: 16 BNC-F Analog Video Loopouts: 16 in 2 DB-15 connectors Power: 1 standard 3-conductor female socket VGA Video Output: Dual output (VGA/DVI) Sensor Input Port: 16 NO/NC removable terminal block connections, software selectable PTZ Control Port: 1 4-pin terminal block serial port using RS-422/RS-485 protocol or connections available through the 8 connectors. Microphone Inputs: 16 analog channels using removable terminal block connections Relay Outputs: 8 outputs, NO or NC, software selectable, using removable terminal block connections Network Port: Ethernet 100Base-T RJ-45 jack Keyboard Port: Mini-DIN jack (PS2) Mouse Port: Mini-DIN jack (PS2) 16x4 Matrix: 4 BNC for local outputs
Video Level Input	All BNC connectors: 1.0 V peak-to-peak
Video Input Impedance	All BNC connectors: 75 ohms

Video Formats Supported	NTSC, PAL, EIA and CCIR
Audio Input (Microphone)	Microphone: 0 dbm, 32 KHz bandwidth, 600 ohm impedance, 2 V RMS (1 V p-p) output
Audio Sampling Rate	8 KHz/sec/channel, uncompressed
Audio Data Storage Rate	Approximately 0.4 GB/12-hour day/microphone
Relay Output	Latching type Power-on state: NO Maximum resistive load: 60 V AC or DC at 1.0 A Programmable output
Sensor Input	Open collector type. Requires NO or NC dry contact output to change state.
Mechanical Characteristics	
Application	Indoor
Mounting	Desktop or standard 19 in. (483 mm) rack mount and stackable, 4U height
Dimensions	Height (H): 7.0 in. (178 mm) Width (W): 19.0 in. (483 mm) Depth (D): 22.0 in. (558.8 mm) for 120 fps models 24.25 in (615.95 mm) for 24/480 fps models with extra fan Note: Refer to Figure 10-1.
Weight	Approximately 50.0 lb (22.6 kg)
Construction	Steel case and hardware
Color	Black
Shipping Dimensions	Length: 28.5 in. (723 mm) Width: 24 in. (610 mm) Height: 12 in. (305 mm)
Shipping Weight	Approximately 63 lb (28.5 kg)
Shipping Volume	4.75 ft ³ (0.13 m ³)
Environmental Characteristics	
Operating Temperature	Range: 32 to 104° F (0 to 40° C)
Operating Humidity Range	0 to 95% relative, non-condensing
Storage Temperature Range	-4 to 158° F (-20 to 70° C)
Storage Humidity Range	0 to 95% relative, non-condensing

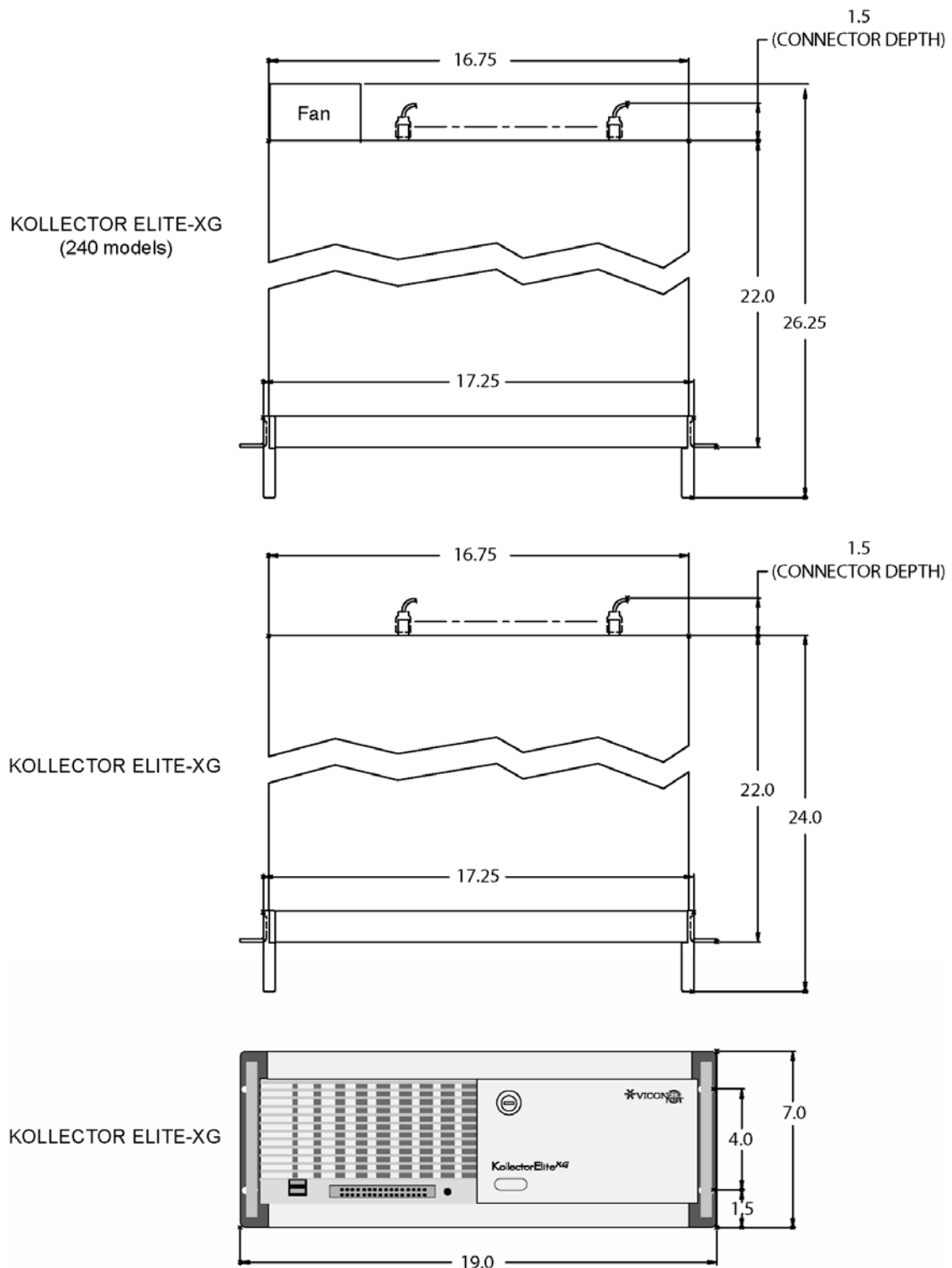


Figure 10-1: Kollector Elite Dimensions

Vicon Standard Equipment Warranty

Vicon Industries Inc. (the "Company") warrants your equipment to be free from defects in material and workmanship under Normal Use from the date of original retail purchase for a period of three years, with the following exceptions:

1. VCRs, all models: Labor and video heads warranted for 120 days from date of original retail purchase. All other parts warranted for one year from date of original retail purchase.
2. Video monitor CRT (cathode ray tube) and LCD monitors, all models: One year from date of original retail purchase.
3. Uninterruptible Power Supplies: Two years from date of original retail purchase.
4. VDR-304 and VDR-308 Recorder Series: One year from date of original retail purchase.
5. Normal Use excludes prolonged use of lens and pan-and-tilt motors, gear heads, and gears due to continuous use of "autopan" or "tour" modes of operation. Such continuous operation is outside the scope of this warranty.

Date of retail purchase is the date original end-user takes possession of the equipment, or, at the sole discretion of the Company, the date the equipment first becomes operational by the original end-user.

The sole remedy under this Warranty is that defective equipment be repaired or (at the Company's option) replaced, at Company repair centers, provided the equipment has been authorized for return by the Company, and the return shipment is prepaid in accordance with policy.

The Company will not be obligated to repair or replace equipment showing abuse or damage, or to parts which in the judgment of the Company are not defective, or any equipment which may have been tampered with, altered, misused, or been subject to unauthorized repair.

Software supplied either separately or in hardware is furnished on an "As Is" basis. Vicon does not warrant that such software shall be error (bug) free. Software support via telephone, if provided at no cost, may be discontinued at any time without notice at Vicon's sole discretion. Vicon reserves the right to make changes to its software in any of its products at any time and without notice.

This Warranty is in lieu of all other conditions and warranties express or implied as to the Goods, including any warranty of merchantability or fitness and the remedy specified in this Warranty is in lieu of all other remedies available to the Purchaser.

No one is authorized to assume any liability on behalf of the Company, or impose any obligations on it in connection with the sale of any Goods, other than that which is specified above. In no event will the Company be liable for indirect, special, incidental, consequential, or other damages, whether arising from interrupted equipment operation, loss of data, replacement of equipment or software, costs or repairs undertaken by the Purchaser, or other causes.

This warranty applies to all sales made by the Company or its dealers and shall be governed by the laws of New York State without regard to its conflict of laws principles. This Warranty shall be enforceable against the Company only in the courts located in the State of New York.

The form of this Warranty is effective August 15, 2007.

THE TERMS OF THIS WARRANTY APPLY ONLY TO SALES MADE WHILE THIS WARRANTY IS IN EFFECT. THIS WARRANTY SHALL BE OF NO EFFECT IF AT THE TIME OF SALE A DIFFERENT WARRANTY IS POSTED ON THE COMPANY'S WEBSITE, WWW.VICON-CCTV.COM. IN THAT EVENT, THE TERMS OF THE POSTED WARRANTY SHALL APPLY EXCLUSIVELY.

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